

INTEGRATED PHOTODIODE FOR CMOS IMAGERS

ABSTRACT OF THE DISCLOSURE

[0092] An exemplary system and method for providing an integrated photosensing element suitably adapted for use in CMOS imaging applications is disclosed as comprising *inter alia*: a processed CMOS host wafer (460) bonded with a monocrystalline, optically active donor wafer (300); a photosensing element (390) integrated in said optically active donor wafer (300) having an interconnect via (505, 495, 485) substantially decoupled from the photosensing element (390), wherein the host (460) and donor (300) wafers are bonded through the optically active material in a region disposed near a metalization surface (450, 455, 445) of the CMOS layer (460) in order to allow fabrication of the interconnect (505, 495, 485). Disclosed features and specifications may be variously controlled, configured, adapted or otherwise optionally modified to further improve or otherwise optimize photosensing performance or other material characteristics. Exemplary embodiments of the present invention representatively provide for integrated photosensing components that may be readily incorporated with existing technologies for the improvement of CMOS imaging, device package form factors, weights and/or other manufacturing, device or material performance metrics.